

## **REMARKS**

Reconsideration and withdrawal of the examiner's rejections under 35 USC § 103 is respectfully requested in view of the above amendments and the following remarks. The applicant would like to thank the examiner for his time and kind cooperation in this matter.

### **35 USC § 103**

The examiner has rejected claims 1-9 under 35 U.S.C. 103(a) as being unpatentable over Ruppert, et al. (US 4,441,881). The examiner asserts the following:

Ruppert, et al., teaches methods of laundering fabrics comprising contacting fabrics in was liquors with detergent compositions comprising hydroxyethyl cellulose with a degree of substitution up to 3 and a molecular weight of 19,000 to 185,000 and a nonionic surfactant (column 5, lines 1-51; column 7, lines 30-45). Ruppert, et al., further teaches that the detergent compositions comprise up to 1.0% of cellulose ether based on the total weight of the formulation (column 5, lines 40-46) and the detergents are utilized in a wash liquor at 1.99 grams per liter water (column 8, lines 20-35).

Ruppert, et al., is silent as to the color and the luminance of the treated fabrics and does not teach all the instantly claimed components in a single example.

The examiner further asserts that it would have been obvious to one of ordinary skill in the art to apply the laundering methods of Ruppert, et al., to black fabric of the claimed luminance values because it is routine to launder fabrics of all color types and luminance value in conventional laundering processes utilizing detergents. Furthermore, it would have been obvious to one of ordinary skill in the art to arrive at the instantly claimed invention by choosing the claimed cellulose ethers having the claimed properties and percentages because Ruppert, et al., teaches that methods comprising these components and amounts are efficient in providing fabrics with soil shield properties during cleansing processes. Applicants respectfully traverse this rejection.

Ruppert discloses a detergent composition comprising 7 to 15% by weight of a nonionic surfactant, up to about 1% of a modified cellulose ether and the balance of detergency adjunct materials. The composition may be used in a method for imparting soil shield to semi-synthetic and synthetic fabrics, the method comprising washing the fabrics with the detergent composition. The composition preferably contains the modified cellulose ether in an amount of from about 0.05 to 0.1 % by weight (see column 2, line 28 to column 3, line 3 and column 5, lines 3 to 46).

As the Examiner has acknowledged, there is no teaching in Ruppert in relation to treating coloured fabrics. Ruppert is concerned only with imparting improved soil shield properties and does not even mention the problems associated with treating coloured fabrics, let alone provide any teaching as to how to treat them.

The skilled artisan would know that soil release/shield and colour care are assessed using completely different testing methods on different substrates/fabric. In this respect, soil testing typically is carried out on white fabrics, so that the detergency measurements are more robust. The results from a soil release/shield test would not have provided any indication of colour care benefits of a particular compound/composition. In other words, there is no "obvious" link between soil release/shield and colour care properties. This is evidenced by the fact that sodium carboxymethylcellulose has good soil release/shield properties but provides no colour care benefit at all. It is respectfully submitted that the teaching in Ruppert in relation to soil release/shield, therefore, would have provided no useful information suggestion or teaching in relation to colour care. Thus, the skilled person reading Ruppert would not have been led or motivated to provide a method of treating coloured fabrics that comprises contacting the fabrics with a main wash liquor comprising a hydroxy C2-C4 alkyl derivative of a  $\beta$ -1,4 polysaccharide. Thus, it is respectfully submitted that claims 1 to 10 as amended are novel and unobvious over the disclosure of Ruppert.

The examiner has rejected claims 1-4 and 7 under 35 U.S.C. 103(a) as being unpatentable over Sakatani (US 4,450,499). The examiner asserts the following:

Sakatani teaches methods of laundering fabrics comprising contacting fabrics in wash liquors with detergent compositions comprising hydroxyethyl cellulose and a cationic surfactant (column 2, lines 10-67; column 7, lines 30-45). Sakatani further teaches that the detergent

compositions comprise 0.1-20% of additives based on the weight of quaternary ammonium salt, wherein the quaternary ammonium salt and cellulose derivative may be used to 50/50 proportions (column 3, lines 5-50) and the detergents are utilized in a water wash liquor at 0.13% (column 4, lines 40-50).

Sakatani, et al., is silent as to the color and the luminance of the treated fabrics and does not teach all the instantly claimed components in a single example.

The examiner further asserts that it would have been obvious to one of ordinary skill in the art to apply the laundering methods of Sakatani to black fabric of the claimed luminance values because it is routine to launder fabrics of all color types and luminance values in conventional laundering processes utilizing detergents. Furthermore, it would have been obvious to one of ordinary skill in the art to arrive at the instantly claimed invention by choosing the claimed cellulose ethers at the claimed percentages because Sakatani teaches that methods comprising these components and amounts are efficient in providing fabrics with excellent soft finishes or touch properties during cleansing processes. Applicants respectfully traverse this rejection.

Sakatani, et al., discloses an additive composition for a granular detergent capable of providing an excellent soft finish and feeling in fabrics. The additive composition comprises a cationic surfactant that is a quaternary ammonium salt and a nonionic cellulose derivative. The weight ratio of the surfactant to the cellulose derivative is from 99.9/0.1 to 50/50, particularly from 99.5/0.5 to 75/25. A list of suitable cellulose derivatives includes hydroxyethyl cellulose and hydroxypropyl cellulose (see column 2, lines 7 to 37 and column 2, line 64 to column 3, line 17 and Examples 1 to 12).

As the Examiner has acknowledged, there is no teaching in Sakatani, et al., in relation to treating coloured fabrics. Sakatani, et al., is concerned only with fabric softness and does not even mention the problems associated with treating coloured fabrics, let alone provide any teaching as to how to treat them.

Applicants respectfully submit that the skilled artisan would know there is no link between fabric softness and colour care properties. Thus, the results from a fabric softness test would not have provided any indication of colour care benefits of a particular

compound/composition. Furthermore, the skilled person reading Sakatani, et al., would have understood that in the compositions that document describes, the softness is delivered primarily by the quaternary ammonium salt and that the cellulose derivative was included simply to aid the dispersion of the quaternary ammonium salt when added to water. This is clear from the fact that the cellulose derivative is added to molten quaternary ammonium salt prior to use. Thus, the skilled person reading Sakatani, et al., would have understood that the cellulose derivative had dispersion aid properties only and did not directly provide any beneficial properties to the fabric. He certainly would not have been led to select the cellulose derivative to provide colour care properties. The skilled person reading Sakatani, et al., therefore, would not have been led to include the cellulose derivatives that document describes in a detergent composition in the expectation of providing beneficial fabric care benefits, let alone in the expectation of providing colour care benefits. Thus, it is respectfully submitted that the claims as amended are novel and unobvious over the disclosure of Sakatani, et al.

The examiner has rejected claim 10 under 35 U.S.C. 103(a) as being unpatentable over Ruppert, et al. (US 4,441,881) as applied to the claims above, and further in view of Bettiol, et al. (WO 00/65015). The examiner asserts the following:

Ruppert, et al., is relied upon as set forth above.

Ruppert, et al., is silent as to the viscosity of the hydroxyethyl cellulose and does not explicitly teach this claimed limitation.

Bettiol, et al., teaches methods of treating fabrics with hydroxyethyl cellulose with viscosities of at least 10 cp to provide the fabric with superior soil release properties (column 4, paragraphs 1-3; column 12, paragraph 3; page 18, paragraph 5).

The examiner further asserts that it would have been obvious to one of ordinary skill in the art to modify the methods of Ruppert, et al., by incorporating the hydroxyethyl celluloses taught by Bettiol, et al., because Bettiol, et al., teaches that these celluloses provide superior soil release properties to fabrics. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results. Applicants respectfully traverse this rejection.

As discussed above, claim 10 is novel and unobvious over the disclosure of Ruppert alone. It is also respectfully submitted that claim 10 is also novel and unobvious over the disclosure of Ruppert in combination with Bettiol, et al.

Bettiol, et al., discloses a surface care composition and a process of treating a new and/or cleaned surface, preferably a fabric surface, to impart soil release properties thereto. The composition comprises a film-forming polymer, in an amount of from about 0.02 to 5% by weight. The film forming polymer preferably has a viscosity in a 2% by weight aqueous solution of at least 5 Cp, preferably at least 10 Cp. A list of suitable film-forming polymers includes hydroxyethyl cellulose, hydroxypropyl cellulose and hydroxybutyl cellulose (see page 4, second and third paragraphs, page 11, second and third paragraphs, page 12, third paragraph and page 18, fifth paragraph).

The above discussions on why Ruppert (which is concerned with soil release properties) does not render claims 1 to 10 obvious also apply to Bettiol, et al., as Bettiol, et al., also relates to soil release properties and not colour care. Additionally, as previously pointed out, in the prior response the process of Bettiol, et al., is not conducted in a main wash liquor as required by the instant claims.

As discussed above, Bettiol, et al., teaches the use of a film forming polymer with a viscosity in a 2% by weight aqueous solution of at least 5 Cp, more preferably at least 10 Cp. This defines a very broad range and does not correspond to nor suggest the preferred viscosity range defined in claim 10. Moreover, there is nothing in Bettiol, et al., to suggest what viscosities would be preferred to use in colour care. Bettiol, et al., also does not include a hydroxy ethyl derivative or hydroxy ethyl cellulose in the list of preferred film forming polymers at page 19, third paragraph. Thus, it is respectfully submitted that claim 10 is novel and unobvious over the disclosure of Ruppert in combination with Bettiol, et al.

The examiner has rejected claims 1, 2, 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Lähtenmäki, et al. (WO 99/61479). The examiner asserts the following:

Lähteenmäki, et al., teaches methods of laundering fabrics and textiles in washing solutions containing modified cellulose ethers, specifically hydroxyethyl celluloses (page 4, line 11) with molecular weights between 90,000-1,300,000 (page 4, lines 11-12), and surfactants (page 5, lines 14-16) to impart anti-fading benefits (page 5, lines 31-34).

Lähteenmäki, et al., is silent about the specific color and luminance of the fabric and does not teach the claimed concentration of a hydroxyl C2-C4 alkyl derivative of a beta 1-4 polysaccharide. Lähteenmäki, et al., does not teach all the instantly claimed components in a single embodiment.

The examiner further asserts that one of ordinary skill in the art would have been motivated to use the methods taught by Lähteenmäki, et al., to treat fabrics with a luminance less than 50, including black fabrics, because Lähteenmäki teaches methods which provide improved antifading benefits (page 5, paragraph 5, lines 31-35) to the fabrics in general using a similar composition encompassed by the material limitations of the instant claims. Furthermore, it would have been obvious to optimize the concentration of the hydroxyethyl cellulose to 0.1-0.001 g/L to obtain the best results because Lähteenmäki teaches the inclusion of 0.1-5% by weight cellulose based components (page 5, lines 11-13) in detergent compositions which are later diluted in a washing solutions during laundering (page 5, line 31). The resulting was liquor would be expected to have a similar concentration of hydroxyethyl cellulose.

WO 99/61479 relates to laundry detergents which contain hydrophobically modified cellulose ether polymers (see page 1, lines 4-5). The cellulose ethers of the present invention can be regarded as hydroxyethyl cellulose ether derivatives whereas the cellulose ethers of WO 99/61479 have been modified with a hydrophobic agent.

The examiner further asserts that there is nothing in the instant claims that excludes the inclusion of modified hydroxyethyl cellulose ethers. In response, applicants have amended claims 1 and 3 to clearly distinguish the instant invention from Lähteenmäki, et al.

Lahteenmaki, et al., discloses hydrophobically modified cellulose ethers and their use in detergent compositions. The cellulose ether preferably is carboxymethyl cellulose or sodium carboxymethyl cellulose, although it may also be hydroxyethyl cellulose or hydroxypropyl cellulose, and the modifying agent is alkylketene dimer. The degree of substitution of the

cellulose ether is preferably 0.4 to 0.6. The detergent compositions may comprise 0.1 to 5% by weight of the modified cellulose ether and 1 to 80% by weight of a surfactant. Lahteenmaki, et al., teaches that the modified cellulose ethers impart fabric appearance benefits, such as anti-fading (see page 1, lines 4 and 5, page 2, lines 15 to 20, page 4, lines 6 to 17 and page 5, lines 9 to 35).

The Examiner has acknowledged that Lahteenmaki, et al., is silent about the colour and luminance of the fabrics that can be treated using the detergent compositions it describes, as well as about the concentration of the hydroxy C2-C4 alkyl derivative of the  $\beta$ -1,4 polysaccharide in the main wash liquor. As discussed at page 5, lines 13 to 17 of the present application, these two aspects represent a surprising result of the invention, i.e. the use of relatively low levels of specific hydroxy alkyl polysaccharides to give benefits in a wash liquor in terms of reduced fabric abrasion and reduced dye pick-up for coloured cloth. Therefore, it is respectfully submitted that the instant amended claims cannot be considered obvious in view of the teaching of Lahteenmaki, et al., since that document is silent in relation to both of these surprising aspects of the invention.

## CONCLUSION

In summary, the specification has been amended to correct several typographic errors. Support for the amendment on page 19 is found on page 8, line 16. Claims 1 and 3 have been amended and claims 4 and 7 have been cancelled as being redundant.

In light of the above remarks, applicants submit that the claims now pending in the present application are in condition for allowance. Reconsideration and allowance of the application is respectfully requested. The examiner is invited to contact the undersigned if there are any questions concerning the case.

Respectfully submitted,



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